

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the above-referenced application.

Listing of Claims:

1-52. (cancelled)

53. (new claim) A method of assembling a tissue engineered articular cartilage construct, comprising:

transfecting a plurality of chondrocytes with a gene for insulin-like growth factor I (IGF-I); and

seeding the transfected cells onto a biocompatible matrix comprising poly(glycolic acid).

54. (new claim) The method of claim 53, further comprising culturing the chondrocytes until they synthesize a desired amount of extracellular matrix.

55. (new claim) The method of claim 53, wherein the matrix further comprises one or more of a synthetic material and a non-synthetic material.

56. (new claim) The method of claim 55, wherein the matrix further comprises one or more of poly(glycolic acid), collagen-glycosaminoglycan, collagen, poly(lactic acid), poly(lactic-co-glycolic acid), poly(anhydride), poly(hydroxy acid), poly(orthoester), poly(propylfumerate), polysaccharide, polypyrrole, polyaniline, polythiophene, polystyrene, polyester, polyurethane, polyurea, poly(ethylene vinyl acetate), polypropylene, polymethacrylate, polyethylene, poly(ethylene oxide), and poly(carbonate).

57. (new claim) The method of claim 53, wherein the matrix further comprises one or more of integrins, cell adhesion molecules, cell adhesion sequences, basement membrane components, laminin, fibronectin, agar, agarose, collagen, glycosaminoglycans, poly(vinyl alcohol), amino acids, and polymers of amino acids.

58. (new claim) The method of claim 53, further comprising adding a cell metabolism regulator to the matrix.

59. (new claim) A tissue engineered construct, comprising:
a plurality of chondrocytes transfected with a gene for IGF-I, and
a biocompatible matrix comprising poly(glycolic acid),
wherein the construct is characterized by synthesis of collagen type II.

60. (new claim) The construct of claim 59, wherein the matrix further comprises one or more of a synthetic material and a non-synthetic material.

61. (new claim) The construct of claim 60, wherein the matrix further comprises one or more of poly(glycolic acid), collagen-glycosaminoglycan, collagen, poly(lactic acid), poly(lactic-co-glycolic acid), poly(anhydride), poly(hydroxy acid), poly(orthoester), poly(propylfumerate), polysaccharide, polypyrrole, polyaniline, polythiophene, polystyrene, polyester, polyurethane, polyurea, poly(ethylene vinyl acetate), polypropylene, polymethacrylate, polyethylene, poly(ethylene oxide), and poly(carbonate).

62. (new claim) The construct of claim 59, wherein the matrix further comprises one or more of integrins, cell adhesion molecules, cell adhesion sequences, basement membrane components, laminin, fibronectin, agar, agarose, collagen, glycosaminoglycans, poly(vinyl alcohol), amino acids, and polymers of amino acids.

63. (new claim) The construct of claim 59, further comprising cell metabolism regulator.